



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,313	02/12/2004	Makoto Higami	026035-00009	4085

7590 04/27/2006

ARENT FOX KINTNER PLOTKIN & KAHN, PLLC  
Suite 400  
1050 Connecticut Avenue, N.W.  
Washington, DC 20036-5339

EXAMINER
----------

CHU, HELEN OK

ART UNIT	PAPER NUMBER
----------	--------------

1745

DATE MAILED: 04/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding..

## Office Action Summary

Application No.

10/776,313

Applicant(s)

HIGAMI ET AL.

Examiner

Helen O. Chu

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-5 rejected under 35 U.S.C. 102(e) as being anticipated by Randolph et al. (US Patent RE37,765 E).

Randolph et al. describes a coating (Applicant's paste) with glass fibers made of carbon black dispersions (Column 2, Lines 52-54), palladium/tin activators (Applicant's catalyst Column 1, Lines 34), polyethylene or polychlorotrifluoroethylene (Applicant's electrolyte; Column 6 and 7, Lines 65 and 1, respectively), a liquid dispersion medium that includes water, methanol (Column 8, Lines 27-30), dimethylsulfoxide (Column 12, Line 6) and a surfactant (Applicant's dispersant; Column 8, Line 50). It is inherent that dimethylsulfoxide have intrinsic properties of a boiling point of 100 to 200°C and a

solubility parameter of 7.5 to 13 (cal/mol)<sup>1/2</sup> because the compound is the same as the recitation of the element in the specification.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5 rejected under 35 U.S.C. 103(a) as being unpatentable over Kovalev et al (US Patent 6,652,440) in view of Yamamoto et al. (US Publication 2001/0041282).

The Kovalev et al. reference discloses a polysulfide salt or fluorinated salt (Applicant's electrolyte; Column 17, Lines 44-62), carbons and activated carbon fibers (Column 15, Lines 20-24), non-aqueous liquids such as methanol (Column 16, Line 2), liquid solvents such as cyclic ethers, and liquid media such as water and surfactant. It is inherent that cyclic ether have intrinsic properties of a boiling point of 100 to 200°C and a solubility parameter of 7.5 to 13 (cal/mol)<sup>1/2</sup> because the compound is the same as the recitation of the element in the specification. Though the Yamamoto et al. discloses most of the recitation of the instantly claimed invention, the Yamamoto et al reference failed to disclose the use of a catalyst. However, the Yamamoto et al. reference discloses the use of a platinum catalyst in a fuel electrode is used to promote the hydrogen oxidation (Paragraph 81), therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a platinum catalyst as taught by Yamamoto et al. into the paste composition used to make

Art Unit: 1745

electrodes to enhance the overall output of the electrochemical cell. Furthermore, Kovalev et al. teaches the carbon or activated carbon fibers (Column 15, Lines 21-22). However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the carbon and activated carbon fibers support. It is prima facie obvious to combine two carbons, each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose. In re Kerkhoven, 205 USPQ 1069, 1072.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen O. Chu whose telephone number is (571) 272-5162. The examiner can normally be reached on Monday-Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 1745

HOC

  
DAI WEI YUAN  
PRIMARY EXAMINER